

July 26, 2016

Tom Moe  
USS Corporation  
P.O. Box 417  
8771 Park Ridge Dr  
Mountain Iron, MN 55768

RE: Project: USS MinTac NPDES-LINE 3 Wkly  
Pace Project No.: 1270360

Dear Tom Moe:

Enclosed are the analytical results for sample(s) received by the laboratory on July 13, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Melisa M Woods  
melisa.woods@pacelabs.com  
Project Manager

Enclosures

cc: Cory Hertling  
Terri Sabetti, NTS



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: USS MinTac NPDES-LINE 3 Wkly

Pace Project No.: 1270360

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### Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792

Alaska Certification #MN01084

Arizona Department of Health Certification #AZ0785

Minnesota Dept of Health Certification #: 027-137-445

North Dakota Certification: # R-203

Wisconsin DNR Certification # : 998027470

WA Department of Ecology Lab ID# C1007

Nevada DNR #MN010842015-1

Oklahoma Department of Environmental Quality

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: USS MinTac NPDES-LINE 3 Wkly

Pace Project No.: 1270360

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1270360001	WS-002 Scrubber Make-up	Water	07/13/16 08:40	07/13/16 16:32
1270360002	WS-003 Thickner Overflow	Water	07/13/16 08:30	07/13/16 16:32

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## SAMPLE ANALYTE COUNT

Project: USS MinTac NPDES-LINE 3 Wkly

Pace Project No.: 1270360

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1270360001	WS-002 Scrubber Make-up	EPA 200.7	MAR	3	PASI-V
		EPA 300.0	CSD	1	PASI-V
1270360002	WS-003 Thickner Overflow	EPA 200.7	MAR	3	PASI-V
		EPA 300.0	CSD	1	PASI-V

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## ANALYTICAL RESULTS

Project: USS MinTac NPDES-LINE 3 Wkly

Pace Project No.: 1270360

Sample: <b>WS-002 Scrubber Make-up</b> Lab ID: <b>1270360001</b> Collected: 07/13/16 08:40 Received: 07/13/16 16:32 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.7 MET ICP, Lab Filtered</b> Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Calcium, Dissolved	<b>96.0</b>	mg/L	5.0	0.29	1	07/20/16 12:23	07/21/16 09:26	7440-70-2	
Magnesium, Dissolved	<b>193</b>	mg/L	5.0	0.67	1	07/20/16 12:23	07/21/16 09:26	7439-95-4	
Total Hardness, Dissolved	<b>1030</b>	mg/L	100	50.0	1	07/20/16 12:23	07/21/16 09:26		
<b>300.0 IC Anions 28 Days</b> Analytical Method: EPA 300.0									
Sulfate	<b>709</b>	mg/L	20.0	10.0	10		07/21/16 18:14	14808-79-8	

Sample: <b>WS-003 Thickner Overflow</b> Lab ID: <b>1270360002</b> Collected: 07/13/16 08:30 Received: 07/13/16 16:32 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.7 MET ICP, Lab Filtered</b> Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Calcium, Dissolved	<b>611</b>	mg/L	5.0	0.29	1	07/20/16 12:23	07/21/16 09:42	7440-70-2	
Magnesium, Dissolved	<b>151</b>	mg/L	5.0	0.67	1	07/20/16 12:23	07/21/16 09:42	7439-95-4	
Total Hardness, Dissolved	<b>2150</b>	mg/L	100	50.0	1	07/20/16 12:23	07/21/16 09:42		
<b>300.0 IC Anions 28 Days</b> Analytical Method: EPA 300.0									
Sulfate	<b>1580</b>	mg/L	40.0	20.0	20		07/21/16 18:35	14808-79-8	

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## QUALITY CONTROL DATA

Project: USS MinTac NPDES-LINE 3 Wkly

Pace Project No.: 1270360

QC Batch: 88317

Analysis Method: EPA 200.7

QC Batch Method: EPA 200.7

Analysis Description: 200.7 MET Dissolved

Associated Lab Samples: 1270360001, 1270360002

METHOD BLANK: 346579

Matrix: Water

Associated Lab Samples: 1270360001, 1270360002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium, Dissolved	mg/L	ND	0.50	0.029	07/21/16 09:04	
Magnesium, Dissolved	mg/L	ND	0.50	0.067	07/21/16 09:04	

LABORATORY CONTROL SAMPLE: 346580

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium, Dissolved	mg/L	50	52.8	106	85-115	
Magnesium, Dissolved	mg/L	50	52.7	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 346581

346582

Parameter	Units	1270360001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium, Dissolved	mg/L	96.0	500	500	626	625	106	106	70-130	0	20	
Magnesium, Dissolved	mg/L	193	500	500	722	723	106	106	70-130	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 346583

346584

Parameter	Units	1270360002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium, Dissolved	mg/L	611	500	500	1150	1150	107	107	70-130	0	20	
Magnesium, Dissolved	mg/L	151	500	500	687	682	107	106	70-130	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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## QUALITY CONTROL DATA

Project: USS MinTac NPDES-LINE 3 Wkly

Pace Project No.: 1270360

QC Batch: 88571

Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Analysis Description: 300.0 IC Anions

Associated Lab Samples: 1270360001, 1270360002

METHOD BLANK: 347781

Matrix: Water

Associated Lab Samples: 1270360001, 1270360002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/L	ND	2.0	1.0	07/21/16 15:11	

LABORATORY CONTROL SAMPLE: 347782

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	50	50.8	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 347783

347784

Parameter	Units	1270571002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	259	250	250	531	529	109	108	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 347852

347853

Parameter	Units	1270705002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	44.9	100	100	150	151	105	106	90-110	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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## QUALIFIERS

Project: USS MinTac NPDES-LINE 3 Wkly

Pace Project No.: 1270360

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### LABORATORIES

PASI-V Pace Analytical Services - Virginia

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: USS MinTac NPDES-LINE 3 Wkly

Pace Project No.: 1270360

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1270360001	WS-002 Scrubber Make-up	EPA 200.7	88317	EPA 200.7	88365
1270360002	WS-003 Thickner Overflow	EPA 200.7	88317	EPA 200.7	88365
1270360001	WS-002 Scrubber Make-up	EPA 300.0	88571		
1270360002	WS-003 Thickner Overflow	EPA 300.0	88571		

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CHAIN-OF-CUSTODY / Analytical Request Form  
The Chain-of-Custody is a LEGAL DOCUMENT

MO# : 1270360

Due Date: 07/27/16


Of 1

Section A		Section B		Section C	
Required Client Information:		Required Project Information:		Invoice Information:	
Company:	USS Corporation	Report To:	Tom Moe	Attention:	
Address:	P.O. Box 417	Copy To:		Company Name:	
Mt. Iron, MN 55768		Purchase Order #:		Address:	
Email:		Project Name:	NIDES-LINE 3 Wky	Face Quote:	
Phone:		Project #:		Face Project Manager:	heather.zika@pacelabs.com
Requested Due Date:				Face Profile #:	

Company: USS Corporation		Report To: Tom Moe		Attention:	
Address: P.O. Box 417		Copy To:		Company Name:	
Mt. Iron, MN 55768				Address:	
Email:		Purchase Order #:		Price Quote:	
Phone:		Project Name: NPDES-LINE 3 Wky		Price Project Manager: heather.zika@pacolabs.com.	
Requested Due Date:		Project #:		Price Profile #:	
Regulatory Agency:		State / Location:			

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample ids must be unique	MATRIX Drinking Water Waste Water Wastewater Surface Oil Wipe Air Other Tissue	CODE DW WW P SL OI WP AT OT TS	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives Unpreserved H2SO4 HNO3 HCl NaOH Na2S2O3 Methanol Other	Analyses Test	Y/N	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	LF,LF LF,LF
				DATE	TIME	DATE	TIME								
1	WS-002 Scrubber Make-Up		WT	7/13/16	0840						X				
2	WS-003 Thicker Overflow		WT	7/13/16	0830						X				
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															

ADDITIONAL COMMENTS		REINQUIRED BY / AFFILIATION		DATE	TIME	ACCEPTED BY / AFFILIATION		DATE	TIME	SAMPLE CONDITIONS	
Tom Moe/USS		Mike		7/13/16	1632	Heather		7/13/16	1632	7.4	
										</	

	Document Name: <b>Sample Condition Upon Receipt Form</b>	Document Revised: 23Feb2015 Page 1 of 1
	Document No.: F-VM-C-001-Rev.09	Issuing Authority: Pace Virginia, Minnesota Quality Office

**Sample Condition  
Upon Receipt**

Client Name:

Project #:

**WO# : 1270360**



Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client  
☐ Commercial ☐ Pace ☐ Other: \_\_\_\_\_

Tracking Number: \_\_\_\_\_

Optional: Proj. Due Date: \_\_\_\_\_ Proj. Name: \_\_\_\_\_

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No

Seals Intact? ☐ Yes ☒ No

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other: \_\_\_\_\_

Temp Blank? ☒ Yes ☐ No

Thermometer Used: ☒ 140792808

Type of Ice: ☒ Wet ☐ Blue ☐ None ☒ Samples on ice, cooling process has begun

Cooler Temp Read °C: \_\_\_\_\_ Cooler Temp Corrected °C: \_\_\_\_\_

Biological Tissue Frozen? ☐ Yes ☐ No ☒ NA

Temp should be above freezing to 6°C Correction Factor: 0.3

Date and Initials of Person Examining Contents: 7-13-16 AL

Comments:

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>		
All containers needing acid/base preservation will be checked and documented in the pH logbook.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

**CLIENT NOTIFICATION/RESOLUTION**

Field Data Required? ☐ Yes ☐ No

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/Resolution: \_\_\_\_\_

FECAL WAIVER ON FILE Y N

TEMPERATURE WAIVER ON FILE Y N

Project Manager Review:

Date: 7/15/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)